## SEQUENCE LISTING

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<110> Carballo-Jane, Ester
      Lai, Wi S.
      Blackshear, Perry J.
<120> TTP-RELATED ZINC FINGER DOMAINS AND
  METHODS OF USE
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<150> 60/148,810
<151> 1999-08-23
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Val Pro Val Pro Ser Asp His Gly Gly Thr Glu Ser Ser Pro Gly Trp
                                25
Gly Ser Ser Gly Pro Trp Ser Leu Ser Rro Ser Asp Ser Ser Pro Ser
Gly Val Thr Ser Arg Leu Pro Gly Arg Ser Thr Ser Leu Val Glu Gly
Arg Ser Cys Gly Trp Val Pro Pro Pro Pro Gly Phe Ala Pro Leu Ala
                                         75
Pro Arg Leu Gly Pro Glu Leu Ser Pro Ser Pro Thr Ser Pro Thr Ala
                                    90
Thr Ser Thr Thr Pro Ser Arg Tyr Lys Thr Glu Leu\Cys Arg Thr Phe
                                105
Ser Glu Ser Gly Arg Cys Arg Tyr Gly Ala Lys Cys Gln Phe Ala His
                            120
Gly Leu Gly Glu Leu Arg Gln Ala Asn Arg His Pro Lys Tyr Lys Thr
                        135
Glu Leu Cy's His Lys Phe Tyr Leu Gln Gly Arg Cys Pro Tyk Gly Ser
                    150
Arg Cys His Phe Ile His Asn Pro Ser Glu Asp Leu Ala Ala Pro Gly
                165
                                    170
His Pro Pro Val Leu Arg Gln Ser Ile Ser Phe Ser Gly Leu Pro Ser
                                185
Gly Arg Arg Thr Ser Pro Pro Pro Pro Gly Leu Ala Gly Pro Ser Leu
                            200
Ser Ser Ser Phe Ser Pro Ser Ser Pro Pro Pro Pro Gly Asp
                        215
                                            220
Leu Pro Leu Ser Pro Ser Ala Phe Ser Ala Ala Pro Gly Thr Pro Leu
                    230
                                        235
Ala Arg Arg Asp Pro Thr Pro Val Cys Cys Pro Ser Cys Arg Arg Ala
               245
                                    250
Thr Pro Ile Ser Val Trp Gly Pro Leu Gly Gly Leu Val Arg Thr Pro
           260
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1

Asp Asp



2

Ser Val Gln Ser Leu Gly Ser Asp Pro Asp Glu Tyr Ala Ser Ser Gly 275 280 Ser Ser Leu Gly Gly Ser Asp Ser Pro Val Phe Glu Ala Gly Val Phe 295 300 Ala Pro Pro Gln Pro Val Ala Ala Pro Arg Arg Leu Pro Ile Phe Asn 310 315 Arg Ile Ser Val Ser Glu <210> 2 <211> 338 <212> PRT <213> Homo sapiens <400> 2 Met Thr Thr Leu Val Ser Ala Thr Ile Phe Asp Leu Ser Glu Val 10 Leu Cys Lys Gly Asn Lys Met Leu Asn Tyr Ser Ala Pro Ser Ala Gly 20 25 Gly Cys Leu Leu Asp Arg Lys Ala Val Gly Thr Pro Ala Gly Gly 40 Phe Pro Arg Arg His Ser Val Thr Leu Pro Ser Ser Lys Phe Arg Gln Asn Gln Leu Leu Ser Ser Leu Lys Gly Glu Pro Ala Pro Ala Leu Ser 75 Ser Arg Asp Ser Arg Phe Arg Asp Arg Ser Phe Ser Glu Gly Glu 90 Arg Leu Leu Pro Thr Gln Lys Gln Pro Gly Gly Gln Val Asn Ser 105 Ser Arg Tyr Lys Thr Glu Leu Cys Arg Pro Phe Glu Glu Asn Gly Ala 115 120 Cys Lys Tyr Gly Asp Lys Cys Gln Phe Ala His Gly Ile His Glu Leu 130 135 Arg Ser Leu Thr Arg His Pro Lys Tyr Lys Thr Glu Leu Cys Arg Thr 150 155 Phe His Thr Ile Gly Phe Cys Pro Tyr Gly Pro Arg Cys His Phe Ile 165 170 His Asn Ala Glu Glu Arg Arg Ala Leu Ala Gly Ala Arg Asp Leu Ser 185 Ala Asp Arg Pro Arg Leu Gln His Ser Phe Ser Phe Ala Gly Phe Pro 195 200 Ser Ala Ala Ala Thr Ala Ala Ala Thr Gly Leu Leu Asp Ser Pro Thr 215 220 Ser Ile Thr Pro Pro Pro Ile Leu Ser Ala Asp Asp Leu Leu Gly Ser 230 235 Pro Thr Leu Pro Asp Gly Thr Asn Asn Pro Phe Ala Phe Ser Ser Gln 250 Glu Leu Ala Ser Leu Phe Ala Pro Ser Met Gly Leu Pro Gly Gly Gly 265 Ser Pro Thr Thr Phe Leu Phe Arg Pro Met Ser Glu Ser Pro His Met 280 Phe Asp Ser Pro Pro Ser Pro Gln Asp Ser Leu Ser Asp Gln Glu Gly 295 300 Tyr Leu Ser Ser Ser Ser Ser His Ser Gly Ser Asp Ser Pro Thr 315 Leu Asp Asn Ser Arg Arg Leu Pro Ile Phe Ser Arg Leu Ser Ile Ser 325 330

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3

<210> 3 <211> 492

<212> PRT

<213> Homo sapiens

<400> 3

Met Ser Thr Thr Leu Leu Ser Ala Phe Tyr Asp Val Asp Phe Leu Cys 10

Lys Thr Glu Lys Ser Leu Ala Asn Leu Asn Leu Asn Met Leu Asp 25

Lys Lys Ala Val Gly Thr Pro Val Ala Ala Pro Ser Ser Gly Phe 40

Ala Pro Gly Phe Leu Arg Arg His Ser Ala Ser Asn Leu His Ala Leu

Ala His Pro Ala Pro Ser Pro Gly Ser Cys Ser Pro Lys Phe Pro Gly 70

Ala Ala Asn Gly Ser Ser Cys Gly Ser Ala Ala Gly Gly Pro Thr 90

Ser Tyr Gly Thr Leu Lys Glu Pro Ser Gly Gly Gly Gly Thr Ala Leu 105

Leu Asn Lys Glu Asn Lys Phe Arg Asp Arg Ser Phe Ser Glu Asn Gly

120 Asp Arg Ser Gln His Leu Leu His Leu Gln Gln Gln Lys Gly Gly 135 140

Gly Gly Ser Gln Ile Asn Ser Thr Arg Tyr Lys Thr Glu Leu Cys Arg 150 155

Pro Phe Glu Glu Ser Gly Thr Cys Lys Tyr Gly Glu Lys Cys Gln Phe 165 170

Ala His Gly Phe His Glu Leu Arg Ser Leu Thr Arg His Pro Lys Tyr 180 185

Lys Thr Glu Leu Cys Arg Thr Phe His Thr Ile Gly Phe Cys Pro Tyr 200

Gly Pro Arg Cys His Phe Ile His Asn Ala Asp Glu Arg Arg Pro Ala 215 220

Pro Ser Gly Gly Ala Ser Gly Asp Leu Arg Ala Phe Gly Thr Arg Asp 230 235

Ala Leu His Leu Gly Phe Pro Arg Glu Pro Arg Pro Lys Leu His His

245 250 Ser Leu Ser Phe Ser Gly Phe Pro Ser Gly His His Gln Pro Pro Gly

265 Gly Leu Glu Ser Pro Leu Leu Asp Ser Pro Thr Ser Arg Thr Pro

280 Pro Pro Pro Ser Cys Ser Ser Ala Ser Ser Cys Ser Ser Ser Ala Ser

295 300 Ser Cys Ser Ser Ala Ser Ala Ser Thr Pro Ser Gly Thr Pro Thr

310 315

Cys Cys Ala Ser Ala Ala Ala Leu Arg Leu Leu Tyr Gly Thr Gly 325 330

Gly Ala Glu Asp Leu Leu Ala Pro Gly Ala Pro Cys Ala Ala Cys Ser 345

Ser Ala Ser Cys Ala Asn Asn Ala Phe Ala Phe Gly Pro Glu Leu Ser

360 Ser Leu Ile Thr Pro Leu Ala Ile Gln Thr His Asn Phe Ala Ala Val

375 380 Ala Ala Ala Tyr Tyr Arg Ser Gln Gln Gln Gln Gln Gln Gly

390 395 . Leu Ala Pro Pro Ala Gln Pro Pro Ala Pro Pro Ser Ala Thr Leu Pro

410

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(IP) (IP) (IP) (IP)

Leu Pro Ile Phe Ser Arg Leu Ser Ile Ser Asp Asp 485 490

<210> 4 <211> 276 <212> PRT <213> Xenopus laevis

<400> 4 Met Glu Ile Ser Asn Asp Ser Leu Asp Leu Phe Ser Ser Phe Phe Pro Gln Leu Ser Pro Pro Ala Asp Pro Glu Thr Pro Leu Leu Pro Ser Phe 20 Ser Ala Pro Pro Lys His Leu Ser Leu Ser Ser Leu Arg Tyr Lys Thr 40 Glu Leu Cys Ser Arg Tyr Ala Glu Ser Gly Phe Cys Ala Tyr Arg Asn Arg Cys Gln Phe Ala His Gly Leu Ser Glu Leu Arg Pro Pro Val Gln 70 His Pro Lys Tyr Lys Thr Glu Leu Cys Arg Ser Phe His Val Leu Gly 90 Thr Cys Asn Tyr Gly Leu Arg Cys Leu Phe Ile His Ser Pro Gln Glu 105 Arg Arg Glu Pro Pro Val Leu Pro Asp Asn Leu Ser Leu Pro Pro Arg 120 Arg Tyr Gly Gly Pro Tyr Arg Glu Arg Cys Arg Leu Trp Ser Ala Pro 135 140 Gly Gly Cys Pro Tyr Gly Ala Arg Cys His Phe Gln His Pro Lys Ser 150 155 Ala Arg Glu Thr Cys Arg His Phe Ala Ala Leu Gly Asp Cys Pro Tyr 165 170 Gly Ala Cys Cys His Phe Ser His Ser Pro Pro Leu Asp Arg Trp Gly 185 Ser Gly Thr Lys Asn Ser Ser Gly Ser Leu Ser Pro Ser Asp Pro Asp 200 Ser Asp Pro Asp Thr Pro Val Leu Ser Glu Ser Pro Ala Asn Asn Ala 215 220 Phe Ser Phe Ser Ser Leu Leu Leu Pro Leu Ala Leu Arg Leu Gln Ile 230 235 Leu Gly Asp Asp Asp Leu Pro Thr Ala Ser Asp Pro Leu Pro Gly Asp 245 250 Asp Thr Asp Leu Leu Pro Gly Asp Glu Glu Ile Ala Gln Gly Leu Leu Ser Val Leu Gly

275

<210> 5 <211> 327

<212> PRT

<213> Cyprinas carpio

<40	0 > 5														
Met	Phe	Glu	Thr	Ser	Thr	Asp	Asn	Leu	Phe	Leu	Phe	Pro	Thr	Glu	Gly
1				5		•			10				*****	15	GIY
Leu	Asn	Glu	Ala 20	Phe	Phe	Pro	Glu	Glu 25	Gly	Leu	Ala	Ser	Gly 30	Ser	Leu
Ser	Leu	Ala 35	Lys	Ala	Leu	Leu	Pro	Leu	Val	Glu	Ser	Pro	Ser	Pro	Pro
	50					55					60	Glu			Ser
65					70					75					Phe 80
				85					90					95	Tyr
			100					His 105					110		
		115					120					125			Val
	130					135		Cys			140				
145					150					155					Gly 160
				165				Glu	170					175	
			180					Gly 185					190		
		195					200	Thr				205			_
	210					215		Asn			220			-	
225					230			Leu		235					240
				245				Val	250					255	
			260					Pro 265					270		
		275					280	Phe				285			_
	290					295		Leu			300				
Asn 305					310		Val	Asp	Lys	Pro 315	Leu	Leu	Leu	Ser	Leu 320
Trp	Gln	Asp	Asp	Pro 325	Arg	Ser									

<210> 6

<211> 319

<212> PRT

<213> Danio rerio

<400> 6

 Met
 Phe
 Glu
 Thr
 Ser
 Gln
 Asp
 Asp
 Leu
 Phe
 Leu
 Phe
 Pro
 Thr
 Glu
 Gly
 Gly</th

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: 6 Cys Ser Arg Tyr Ala Glu Thr Gly Thr Cys Lys Tyr Ala Glu Arg Cys 70 75 Gln Phe Ala His Gly Leu His Asp Leu His Val Pro Ser Arg His Pro 85 90 Lys Tyr Lys Thr Glu Leu Cys Arg Thr Tyr His Thr Ala Gly Tyr Cys 100 105 Val Tyr Gly Thr Arg Cys Leu Phe Val His Asn Leu Lys Glu Gln Arg 120 125 Pro Ile Arg Pro Arg Arg Arg Asn Val Pro Cys Arg Thr Phe Arg Ala 135 Phe Gly Val Cys Pro Phe Gly Asn Arg Cys His Phe Leu His Val Glu 150 Gly Gly Ser Glu Ser Asp Gly Ala Glu Glu Glu Gln Thr Trp Gln Pro 170 Pro Ser Gln Ser Gln Glu Trp Lys Pro Arg Gly Ala Leu Cys Arg Thr 185 Phe Ser Ala Phe Gly Phe Cys Leu Tyr Gly Thr Arg Cys Arg Phe Gln 205 His Gly Leu Pro Asn Thr Ile Lys Gly His Asn Ala Asn His Thr Ser 220 Trp Pro Gln Gln Met Thr Asn Gly Gly Ser Ile Ser Pro Ile Ser Asp 230 235 Thr Cys Thr Ser Pro Ser Pro Pro Ser Ser Pro Thr Ser Ala Leu 250 Pro Ser Pro Val Tyr Pro Asp Ser Ser Gly Pro Ile Thr Pro Pro Ser 265 Val Glu Ala Val Ala Asn Asn Ala Phe Thr Phe Ser Ser Gln His Leu 280 Asn Asp Leu Leu Pro Leu Ala Leu Arg Leu Gln Gln Leu Glu Lys 295 Ala Ala Ser Ala Gly Pro Gln Asp Val Leu Asp Lys Pro Leu Leu 310 <210> 7 <211> 64 <212> PRT <213> Rattus norvegicus

Arg Tyr Lys Thr Glu Leu Cys Arg Pro Phe Glu Glu Asn Gly Ala Cys 10 Lys Tyr Gly Asp Lys Cys Gln Phe Ala His Gly Ile His Glu Leu Arg Ser Leu Thr Arg His Pro Lys Tyr Lys Thr Glu Leu Cys Arg Thr Phe 40 His Thr Ile Gly Phe Cys Pro Tyr Gly Pro Arg Cys His Phe Ile His

<210> 8 <211> 64 <212> PRT <213> Homo sapiens

<400> 8

Arg Tyr Lys Thr Glu Leu Cys Arg Pro Phe Glu Glu Asn Gly Ala Cys 10 Lys Tyr Gly Asp Lys Cys Gln Phe Ala His Gly Ile His Glu Leu Arg 25

Ш

Ser Leu Thr Arg His Pro Lys Tyr Lys Thr Glu Leu Cys Arg Thr Phe 35 40 45

His Thr Ile Gly Phe Cys Pro Tyr Gly Pro Arg Cys His Phe Ile His 50

<210> 9 <211> 64 <212> PRT

<213> Mus musculus

<400> 9

Arg Tyr Lys Thr Glu Leu Cys Arg Pro Phe Glu Glu Asn Gly Ala Cys

1 10 15
Lys Tyr Gly Asp Lys Cys Gly Phe Ala His Gly Ila Win Gly Inc.

Lys Tyr Gly Asp Lys Cys Gln Phe Ala His Gly Ile His Glu Leu Arg
20 25 30

Ser Leu Thr Arg His Pro Lys Tyr Lys Thr Glu Leu Cys Arg Thr Phe 35 40 45

s Thr Ile Gly Phe Cys Pro Tyr Gly Pro Arg Cys His Phe Ile His
50 55 60

<210> 10

<211> 64

<212> PRT

<213> Xenopus laevis

<400> 10

 Arg
 Tyr
 Lys
 Thr
 Glu
 Leu
 Cys
 Arg
 Pro
 Phe
 Glu
 Glu
 Asn
 Gly
 Ser
 Cys

 1
 5
 6
 10
 10
 15
 15

 Lys
 Tyr
 10
 11
 15
 15

 Lys
 Tyr
 His
 Gly
 His
 Glu
 Leu
 Arg
 His
 Arg

 Ser
 Leu
 Thr
 Arg
 His
 Pro
 Lys
 Tyr
 Lys
 Thr
 Glu
 Leu
 Cys
 Arg
 Thr
 Phe

 His
 Thr
 Ile
 Gly
 Phe
 Cys
 Pro
 Tyr
 Gly
 Pro
 Arg
 Cys
 His
 Phe
 Ile
 His

<210> 11

<211> 64

<212> PRT

<213> Homo sapiens

<400> 11

50 55 60

<210> 12

<211> 64

<212> PRT

<213> Mus musculus

<400> 12

Arg Tyr Lys Thr Glu Leu Cys Arg Pro Phe Glu Glu Ser Gly Thr Cys
1 5 10 15

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Lys Tyr Gly Glu Lys Cys Gln Phe Ala His Gly Phe His Glu Leu Arg
20 25 30

Ser Leu Thr Arg His Pro Lys Tyr Lys Thr Glu Leu Cys Arg Thr Phe
35 40 45

His Thr Ile Gly Phe Cys Pro Tyr Gly Pro Arg Cys His Phe Ile His

<210> 13 <211> 64 <212> PRT <213> Xenopus laevis

12137 Nellopus Idevi

20 25 30

Ser Leu Thr Arg His Pro Lys Tyr Lys Thr Glu Leu Cys Arg Thr Phe
35 40 45

His Thr Ile Gly Phe Cys Pro Tyr Gly Pro Arg Cys His Phe Ile His 50 55 60

<210> 14 <211> 64 <212> PRT <213> Xenopus laevis

<210> 15 <211> 64 <212> PRT <213> Homo sapiens

<210> 16 <211> 64 <212> PRT <213> Bos taurus <400> 16 ADD44555 TELECE

 Arg
 Tyr
 Lys
 Thr
 Glu
 Leu
 Cys
 Arg
 Thr
 Phe
 Ser
 Glu
 Ser
 Gly
 Arg
 Cys

 Arg
 Tyr
 Gly
 Ala
 Lys
 Cys
 Gln
 Phe
 Ala
 His
 Gly
 Leu
 Gly
 Glu
 Leu
 Arg

 Arg
 Asn
 Arg
 His
 Pro
 Lys
 Tyr
 Lys
 Thr
 Glu
 Leu
 Cys
 His
 Lys
 Phe

 Tyr
 Leu
 Gly
 Arg
 Cys
 Pro
 Tyr
 Gly
 Ser
 Arg
 Cys
 His
 Phe
 Ile
 His

<210> 17 <211> 64 <212> PRT <213> Mus musculus

<210> 18 <211> 64 <212> PRT <213> Rattus norvegicus

<210> 19 <211> 64 <212> PRT <213> Xenopus laevis

<210> 20 <211> 64 <212> PRT <213> Cyprinus carpio

 Arg Tyr
 Lys Thr Glu Leu Cys Ser Arg Tyr Ala Glu Thr Gly Thr Cys

 1
 5
 10
 15

 Lys Tyr Ala Glu Arg Cys Gln Phe Ala His Gly Leu His Asp Leu His
 20
 25
 30

 Val Pro Ser Arg His Pro Lys Tyr Lys Thr Glu Leu Cys Arg Thr Tyr
 45

 His Asn Ala Gly Tyr Cys Val Tyr Val Thr Arg Cys Leu Phe Val His
 50
 55

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<400> 21

<210> 23 <211> 77 <212> PRT <213> Homo sapiens